MAHONINGSIDE SOIL REMOVAL SAMPLING PLAN

SITE NAME: Mahoningside Power Plant

PROJECT TASK# 12634.001.001.0508 **TDD# 0501-011**

SITE LOCATION: **Warren, Ohio. Located along North Tod and Summit Streets**

SITE OR FACILITY TYPE: Former hydroelectric and coal burning Power Plant from 1904-1980.

DATE: February 23, 2005 **Sample Dates: February – April, 2005** **OSC: Mark Durno**

START PREPARER: Frank L. Beodray **SAP QA REVIEWER: Linda Korobka**
START ONS-SITE LEAD: Andy Ravis

OBJECTIVE OF SAMPLING:
Collect representative composite samples from three established soil piles for waste minimization. Two of the soil piles A & C have been identified as having mixed TSCA concentrations above 50 mg/Kg. The objective of this project is to establish a sampling grid system to properly sample and segregate TSCA soil from non-TSCA soil based on a 50 mg/Kg total PCB concentration. The composite strategy action level cut-off concentration used for this project will be 25 mg/Kg [Subpart G (3) (v)]. This concentration is based on 40 CFR Part 761, Subparts G and O. A separate, stand alone confirmation sampling plan will discuss the details of that sampling effort. This sampling plan will be used for reconfiguration and characterization of piles for off-site disposal and for characterization of large (bulk) materials that may remain on-site. A separate Air Monitoring Plan has also been prepared for this project that discusses the personal and perimeter air monitoring that will be done for worker exposure and potential offsite emissions.

SAMPLING METHODS:
Soil Sampling: Once the waste soil is placed in approximate 15' x 15' x 5', 40 cubic yard (cy) piles for sampling, a total of nine grab samples will be taken from each pile. Nine grids will be identified for each pile and samples will be collected three alternating depths intermittently (see attached sketch). The nine grab samples will be placed into stainless steel bowl mixed and composted. The representative sample will be placed inside an 8-ounce wide mouth glass jar, marked accordingly and prepared for shipment to an offsite laboratory for PCB analysis. Samples will be collected using shovels and/or a post hole digger and dedicated plastic spatulas. MS/MSD – 1/20
QA dups – 1/10

Large Debris Sampling: solid porous material such as concrete larger then 3' in any direction that has been already segregated will also be sampled by START. Samples of this material will be biased towards obvious stained material. Three to nine grab samples of this media will be collected using chipping methods and composited into one representative sample for PCB laboratory analysis. In the event that these large surfaces are observed as non-porous surfaces for debris, surface wipe samples will be collected. Wipe samples will be collected and submitted to the laboratory for analysis. A minimum reporting level of 100 ug/cm^2 will be provided as the clean up goal for this material.

Asbestos Wipes:
Wipe samples will also be collected for asbestos verification of large debris per the criteria mentioned above. ACM wipes samples will be collected from a 10cm x 10cm surface in similar fashion to a PCB wipe except the wipe gauze will be placed in a water solution instead of hexane. Since wipe results are based on concentration versus area, anything reported as asbestos fibers present will require re-washing and re-sampling. 3 wipes/item

Confirmation Sampling:
Once all waste material has been removed from site, confirmation sampling will be performed underneath the debris piles, use and staging areas. A representative sample area size will be established based on a composite sample strategy and 40 CFR Part 761 Subpart O. This sampling approach will statistically satisfy one representative weighted composite sample from each area. The number of grab samples from each grid for compositing will be

determined in a separate, Soil Confirmation Plan.

All sampling will be performed in accordance with START's SOP# 403-Waste Pile Sampling standard operating procedures and US EPA's Waste Pile Sampling SOP# 2017, 11/17/94 and the Mahoningside Power Plant Site January 16, 2005 dated approved work plan.

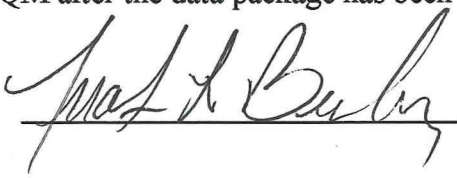
HEALTH & SAFTEY/PPE:
Soil and debris sample collection will be conducted in Level C. This will include the use of GME-P100 or equivalent combination organic vapor/particulate filter cartridges, nitrile gloves, tyvek suit and latex booties. A box of silver shields may be added for the potential sampling of heavy oil-laden material, if encountered. START will work under the EQM generated Health and Safety plan with Weston Solutions, Inc. review and concurrence.

LABORATORY METHODS:
Samples will be submitted to the laboratory for PCBs via method SW846 8082. The laboratory TDD will be procured by EQM for these services. START recommends a one duplicate sample be collected for each 10 samples for quality control purposes. The laboratory selected to provide PCB soil analysis is STL's Laboratory in North Canton, Ohio. STL is an Ohio Voluntary Action Plan (VAP) certified laboratory. The contract has been set up for a variety of turn around time (TAT) options. The TAT will be determined in the field based on the needs of space on the project work site from 100, 1-day, and 80, 2 and 3-day rapid TAT options for the PCB samples. Asbestos samples will be analyzed by Polarized Light Microscopy (PLM) unless otherwise specified. The laboratory selected to analyze the asbestos samples is **EMSL located in Westmont, New Jersey**. Chain of Custody and sample tags will be generated using SCRIBE for sample documentation control and ease of quality control/quality assurance management.

DECONTAMINATION:
Soil sampling equipment such as the stainless steel mixing bowl and a shovel or bucket auger for deeper samples, will be decontaminated for re-use after each 40 cy pile has been completed. Dedicated plastic sample spatulas used for upper level soil sample collection will be discarded after completing the nine point sampling of each area. PPE and all other expendable items such as APR cartridges will be disposed in large plastic garbage bags at the end of each day. Decontamination will be accomplished with Liqui-Nox® and distilled water.

PACKAGING: Iced coolers and bubble wrap will be used to package and ship samples to avoid breakage. Samples for PCB analysis are expected to be transported via courier, as provided by the laboratory.

DELIVERABLES: QC Summary with results package. Report will be an EDD deliverable in Excel format that is compatible for Scribe import. These EDDs will include results for QC samples associated with PCB analysis. At a minimum this will include the method blank, laboratory control sample, laboratory duplicate, matrix spike and matrix spike duplicate, as necessary for project specific samples. The final data package will consist of a pdf illustrating all associated results and raw data. This data package will be a CLP like, validatable package. Original copies of the signed COCs will be sent to EQM after the data package has been compiled. All electronic data will be placed on an EQM secured ftp site.

PROJECT MANAGER SIGNATURE: 

U.S. EPA OSC SIGNATURE: _____

PROJECT SAMPLE TABLE

NUMBER OF SAMPLES	MATRIX*	CONTAINER TYPE	PARAMETER	PRESERVATIVE	QA/QC REQUESTED@ AND/OR SPECIAL DETECTION LIMIT
TBD	**Soil Pile A-C**	8-ounce glass jar w/ Teflon lid	PCB only Method 8082	Ice	1 duplicate per 10 Minimum DL/method
TBD	**Debris PCB Wipes**	Wipe tube with gauze & hexane	PCB only Method 8082	Hexane	1 duplicate per 10 Minimum DL/method
TBD	**Debris ACM Wipes**	Wipe tube with gauze & water	ACM-TEM EPA Method 600/R-93/116	Ice	MDL – 0.1% by weight

MAHONINGSIDE "TYPICAL" 9-POINT SAMPLE GRID

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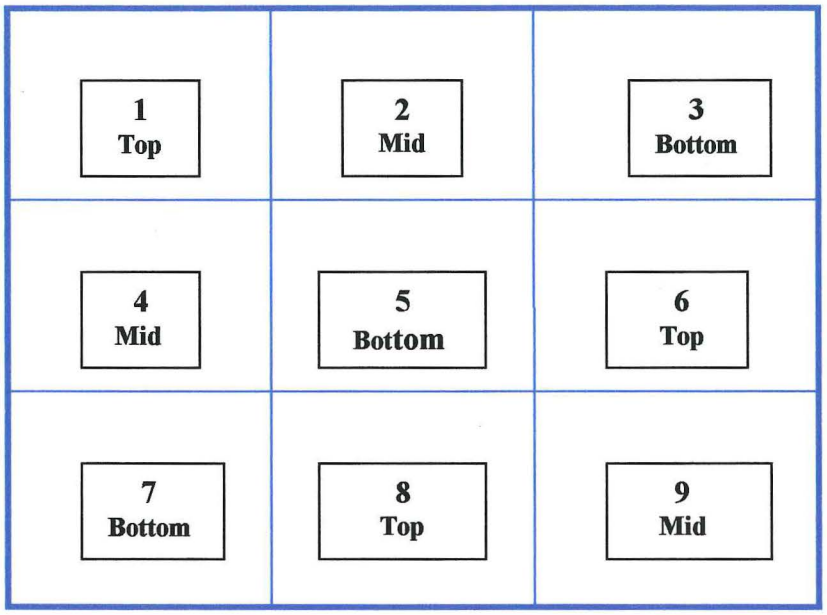

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Soil grid orientation may be changed in the field. The key aspect is to collect an equal number of top, middle and bottom grab sample representation per grid.